

PATENT APPLICATION  
Docket No. 9898-321  
Client No. SS-18146-US

Applicant: Ki-Yeon Park, Sung-Tae Kim, Young-Sun Kim, In-Sung Park, Jae-Hyun Yeo and Ki-Vin Im

Serial No. not yet assigned Examiner: not yet assigned

Filing Date: November 12, 2003 ✓ Art Unit: not yet assigned

Title: CAPACITOR OF SEMICONDUCTOR MEMORY DEVICE THAT HAS COMPOSITE Al<sub>2</sub>O<sub>3</sub>/HfO<sub>2</sub> DIELECTRIC LAYER AND METHOD OF MANUFACTURING THE SAME

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FORM PTO-1449 (Modified)**

**U.S. PATENT DOCUMENTS**

| <u>Exam</u> | <u>Init</u> | <u>Ref</u> | <u>Document Number</u> | <u>Publication Date</u> | <u>Name</u>         | <u>Class</u> | <u>Sub Class</u> |
|-------------|-------------|------------|------------------------|-------------------------|---------------------|--------------|------------------|
|             |             |            | 2001-0024387A1         | 9/21/2001               | Raaijmakers, et al. |              |                  |

**FOREIGN PATENT DOCUMENTS**

| <u>Exam</u> | <u>Init</u> | <u>Ref</u> | <u>Document Number</u> | <u>Publication Date</u> | <u>Country</u> | <u>Name</u> |
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|             |             |            |                        |                         |                |             |

**OTHER DOCUMENTS**

| <u>Exam</u> | <u>Init</u> | <u>Ref</u> | <u>Author, Title, Date, Pertinent Pages, Etc.)</u> |
|-------------|-------------|------------|--|
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Examiner: JKW/RD

Date Considered: 3/3/05



PATENT APPLICATION  
Docket No. 9898-321  
Client No. SS-18146-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Ki-Yeon Park, et al. Conf. No. 8248  
Serial No. 10/713,577 Examiner: Not yet assigned  
Filed: November 12, 2003 ✓ Art Unit: 2818  
For: CAPACITOR OF SEMICONDUCTOR MEMORY DEVICE  
THAT HAS COMPOSITE Al<sub>2</sub>O<sub>3</sub>/HfO<sub>2</sub> DIELECTRIC  
LAYER AND METHOD OF MANUFACTURING THE  
SAME

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|----------------------------|------------|-------------------------------------|-----------------------------------|----------------|-------------|
| <u>DJ</u>                  | —          | P2002-0002596                       | Jan. 10, 2002                     | Korea          |             |
| <u>DJ</u>                  | —          | P2002-0034520                       | May 9, 2002                       | Korea          |             |

**OTHER DOCUMENTS**

| <u>Exam</u><br><u>Init</u> | <u>Ref</u> | <u>Author, Title, Date, Pertinent Pages, Etc.)</u>                |
|----------------------------|------------|---|
| —                          | —          | English Language Abstract of Korean Publication No: P2002-0002596 |
| —                          | —          | English Language Abstract of Korean Publication No: P2002-0034520 |

Examiner: [Signature]

Date Considered: 3/3/05

In re application of: Ki-Yeon Park, et al. Conf. No. 8248  
 Serial No. 10/713,577 Examiner: Nhu, David  
 Filed: November 12, 2003 ✓ Art Unit: 2818  
 For: CAPACITOR OF SEMICONDUCTOR MEMORY DEVICE THAT HAS  
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|----------------------------|------------|----------------------------------|-----------------------------|------------------|--------------|----------------------------|
| ✓                          | _____      | 5,440,157                        | Aug. 1995                   | Imai et al.      |              |                            |
| ✓                          | _____      | 5,641,702                        | Jun. 1997                   | Imai et al.      |              |                            |
| ✓                          | _____      | 6,287,965                        | Sep. 2001                   | Kang et al.      |              |                            |
| ✓                          | _____      | 6,399,491                        | Jun. 2002                   | Jeon et al.      |              |                            |
| ✓                          | _____      | 6,596,583                        | Jul. 2003                   | Agarwal et al.   |              |                            |
| ✓                          | _____      | 6,599,794                        | Jul. 2003                   | Kiyotoshi et al. |              |                            |
| ✓                          | _____      | 6,660,631                        | Dec. 2003                   | Marsh, EugeneP.  |              |                            |
| ✓                          | _____      | 6,660,660                        | Dec. 2003                   | Kaukka et al.    |              |                            |

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Examiner: David Nhu

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|----------------------------|------------|----------------------------------|-----------------------------|---------------|--------------|----------------------------|
| <u>D</u>                   | <u>✓</u>   | 2002/0115252                     | Aug. 22, 02                 | Haukka et al. |              |                            |

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|----------------------------|------------|-------------------------------------|-----------------------------------|----------------|-------------|
| <u>D</u>                   | <u>✓</u>   | P2001-0082118                       | Aug. 29, 01                       | Korea          |             |

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|----------------------------|------------|---|
|                            |            | English Language Abstract of Korean Publication No: P2001-0082118 |

Examiner: John D. Jr.

Date Considered: 3/3/05